R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

The December 4, 2000 Office Action and the Examiner's comments have been carefully considered. In response, the claims are amended and remarks are set forth below in a sincere effort to place the present application in condition for allowance. The amendments are supported by the application as originally filed. Therefore, no new matter is added.

REJECTION UNDER 35 USC 112

In the Office Action claims 1-8 are rejected under the second paragraph of 35 USC 112 as being indefinite. In response, claims 1-8 are amended in a sincere effort to address each of the points raised in the Office Action and to obviate the Examiner's rejection. In view of the amendment of claims 1-8, reconsideration and withdrawal of the rejection under the second paragraph of 35 USC 112 are respectfully requested.

NEW CLAIM

New claims 9-10 are added to the present application. New claims 9 and 10 additionally define the present invention and are

patentable for reasons, inter alia, for the allowance of claims 1-8.

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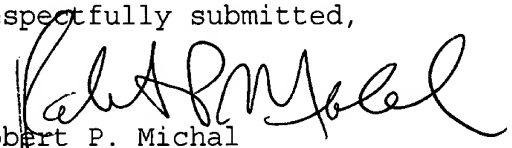
If the Examiner disagrees with any of the foregoing, the Examiner is respectfully requested to point out where there is support for a contrary view.

Entry of the amendment, allowance of the claims, and the passing of the application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



Robert P. Michal
Reg. No. 35,614

Frishauf, Holtz, Goodman, Langer & Chick, P.C.
767 Third Avenue - 25th Floor
New York, New York 10017-2023
Tel. No. (212) 319-4900
Fax Nos. (212) 319-5101
RPM/jh:ajj

COPY OF AMENDED CLAIMS SHOWING CHANGES BEING MADE THERETO
SERIAL NO. 09/375,676

1. (Amended) A distance measuring method for measuring [the] a distance to a target by measuring [the] a time required for a beam of light to go to and return from the target, said method comprising steps of:

shooting the target with a beam of light;

converting [the] a beam of light returned from the target into an electric signal and generating a light reception signal;

generating an inversion signal by inverting a polarity of the light reception signal and shifting a relative potential level of [two signals] said light reception signal and said inversion signal so as to make said light reception signal and said inversion signal produce an intersection;

comparing said light reception signal and said inversion signal for an electric potential; and

determining [the] a time of reception of the beam of light [returning] returned from said target based on an outcome of said potential comparison.

2. (Amended) A distance measuring apparatus for measuring a [the] distance to a target by measuring [the] a time required for a beam of light to go to and return from the target, said apparatus comprising:

[a] light reception means for converting a received light into an electric signal;

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[a] clamp/inversion means for clamping and inverting an output of said light reception means;

[a] comparison means for comparing the output of said light reception means and an output of said clamp/inversion means; and

[a] means for identifying the time of light reception based on an outcome of said comparison means.

3. (Amended) A distance measuring apparatus according to claim 2, wherein said means for identifying the time of light reception detects [the] a time from [the] a temporal point of inversion of [the] a magnitude relationship between the output of said light reception means and the output of said clamp/inversion means and [the] a temporal point of another inversion of [the] a magnitude relationship and uses a predetermined value in place of the detected time when it exceeds a limit level.

4. (Amended) A distance measuring apparatus for measuring [the] a distance to a target by measuring [the] a time required for a beam of light to go to and return from the target, said apparatus comprising:

a light reception element for converting [the] a received light into an electric signal and generating a light reception signal;

a clamp/inversion circuit for inverting a polarity of said light reception signal generated by said light reception element, shifting [the] a potential of said light reception signal high

and generating an inversion signal intersecting said light reception signal at two points;

a comparator for comparing said light reception signal generated by said light reception element and said inversion signal generated by said clamp/inversion circuit; and

a light reception temporal point determining circuit for receiving [the] an output of said comparator and determining [the] a light reception temporal point between a first temporal point for inverting the magnitude relationship of the light reception signal generated by said light reception element and said inversion signal generated by said clamp/inversion circuit and a second temporal point for once again inverting the magnitude relationship thereof.

5. (Amended) A distance measuring apparatus according to claim 4, wherein said light reception temporal point determining circuit is provided with an upper limit value for [the] a time between said first temporal point and said second temporal point and adapted to take a temporal point after a predetermined time from said first temporal point for [the] a second temporal time when the upper limit value is exceeded.

6. (Amended) A distance measuring apparatus according to claim 5, wherein the upper limit value of said light reception temporal point determining circuit is about twice of a half of the width of the irradiated optical pulse and said circuit is

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adapted to take [the] an end of [the] a time twice as long as a half of the width of the optical pulse from said first temporal point for the second temporal point.

7. (Amended) A distance measuring apparatus according to claim 4, wherein said light reception temporal point determining circuit is adapted to select [the] a middle point of said first temporal point and said second temporal point as the light reception temporal point.

8. (Amended) A distance measuring apparatus according to claim 5, wherein said light reception temporal point determining circuit is adapted to select [the] a middle point of said first temporal point and said second temporal point as the light reception temporal point.

Please add new claims 9 and 10 as follows:

--9. A distance measuring apparatus for measuring a distance to a target by measuring a time required for a beam of light to go to and return from the target, said apparatus comprising:

light emission means for emitting a beam of light to the target;

light reception means for receiving a reflected light from the target and converting the light into an electric output signal;

clamp/inversion means for inverting a polarity of the electric output signal from the light reception means so as to obtain an inverted signal and clamping a predetermined potential of the inverted signal so as to make the electric output signal from the light reception means and the inverted signal intersect each other at two points;

comparison means for comparing the electric output signal from the light reception means and an output signal from the clamp/inversion means so as to detect two intersections; and

means for identifying a time of light reception based on the intersections detected by the comparison means.

10. A distance measuring apparatus according to claim 9, wherein said means for identifying the time of light reception detects the time from the temporal point of inversion of the magnitude relationship between the output of said light reception means and the output of said clamp/inversion means and the temporal point of another inversion of the magnitude relationship and uses a predetermined value in place of the detected time when it exceeds a limit level.--